

REMARKS

At the outset, the Examiner is thanked for the thorough review and consideration of the subject application. The Final Office Action of November 1, 2002 has been received and contents carefully reviewed.

Claims 42-69 are currently pending. Reexamination and reconsideration are respectfully requested.

The Examiner rejected claims 42-52, 54-66, 68 and 69 under 35 U.S.C. §103 (a) as being unpatentable over Shimada et al. (US Patent No. 5,852,485) in view of Ota et al. (US Patent No 6,040,886). Applicants respectfully traverse this rejection.

Claim 42 is allowable at least for the reason that claim 42 recites a combination of elements including a transparent first metal layer and a transparent second metal layer on the gate insulator, wherein the transparent first metal layer is connected to a plurality of metal electrodes and the transparent second metal layer includes a transparent line.

Claim 56 is allowable at least for the reason that claim 56 recites a combination of elements including forming a transparent first metal layer and a transparent second metal layer on the gate insulator, wherein the transparent first metal layer is connected to a plurality of metal electrodes and the transparent second metal layer includes a transparent line.

None of the cited references, singly or in combination, teaches or suggests at least these features of the claims.

Shimada et al. may teach a plurality of transparent metal layers, however, the layers referred to by the Examiner as the transparent first and second metal layers, are not on the gate insulation layer 115. First, on page 3 of the Office Action, the Examiner refers to the pixel electrode (connecting electrode 16) as the transparent first metal layer and refers to the common electrode (counter electrode 11) as the transparent second metal layer. Next, on pages 3 and 4 of the Office Action, the Examiner refers to the picture element electrode 12 as the transparent first metal layer. Even though the Examiner appears to take alternative positions as to which layers constitute the transparent metal layers, neither combination of transparent metal layers appear to be on the gate insulation layer.

Further, Ota et al. cannot be combined with Shimada et al. at least for the reason that Ota et al. teaches away from Shimada et al. In Ota et al., the pixel electrode 3 serves as the source electrode (column 6, line 41 to column 7, line 6), whereas in Shimada et al., the drain electrode 112 is connected the picture element electrode 12 through a connecting electrode 16 and a contact hole 17, which is made of ITO or SnO (column 11, lines 31-54). This proposed combination of references also teaches away from the transparent metal layers and the source and drain electrodes as recited in the claims and as shown in the Figures of this application.

None of the cited references teaches or suggests the claimed invention as a whole. *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983); *Schenck v. Nortron Corp.*, 713 F.2d 782, 218 USPQ 698 (Fed. Cir. 1983); see also *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976). The invention of this application comprises an in-plane switching liquid crystal display device (IPS LCD) having transparent first and second metal layers on the gate insulating layer. The cited references may teach transparent metal layers using specific processes and specific apparatuses, but fail to teach or suggest explicitly or implicitly the transparent metal layers recited by claims 42 and 56.

Further, the Applicant has discovered through experimentation that the aperture ratio is increased and a plane electric field is achieved using the claimed IPS LCD. Applicant has discovered the source of a problem and through experimentation, has identified a solution. The cited references are not attempting to solve similar problems with the same solution. "[A] patentable invention may lie in the discovery of the source of a problem even though the remedy may be obvious once the source of the problem is identified. This is part of the 'subject matter as a whole', which should always be considered in determining the obviousness of an invention under 35 U.S.C. § 103." *In re Spinnoble*, 405 F.2d 578, 585, 160 USPQ 237, 243 (CCPA 1969). However, "discovery of the cause of a problem . . . does not always result in a patentable invention. . . . [A] different situation exists where the solution is obvious from prior art which contains the same solution for a similar problem." *In re Wiseman*, 596 F.2d 1019, 1022, 201 USPQ 658, 661 (CCPA 1979) (emphasis in original).

Furthermore, the Examiner has not pointed out a particular finding as to the specific understanding or principle within the knowledge of a skilled artisan, either expressly or by implication that would have motivated one with no knowledge to combine or modify the primary

reference. Applicant respectfully submits that no proper motivation or suggestion is found for one of ordinary skill in the art to modify the primary reference to arrive at the claimed IPS LCD. Further, such combination is suggested only by the claimed invention, which is considered impermissible hindsight reconstruction. Through the combination of references used by the Examiner, he has taken a specific aspect of the claims, i.e., the transparent metal layers, to be the only advantage of the invention, and disregarded the other features of the claims. Accordingly, Applicant respectfully requests withdrawal of the rejection based on the combination of references. Applicant respectfully submits that the Examiner has failed to establish a *prima facie* case of obviousness.

The Examiner rejected claims 53 and 67 under 35 U.S.C. §103 (a) as being unpatentable over Shimada et al. (US Patent No. 5,852,485) in view of Ota et al. (US Patent No. 6,040,886) as applied to claims 42-52, 54-66, 68 and 69 above, and further in view of Ohta et al. (US Patent No. 5,929,958). Applicants respectfully traverse this rejection.

The combination of Shimada et al. and Ota et al. fail to teach or suggest the IPS LCD of the present application. Ohta et al. fails to cure the deficiencies of the other references.

Moreover, claims 43-55 and 57-69 are believed to be allowable by virtue of their dependence on claims 42 and 56, which are believed to be allowable.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue.

Should the Examiner deem that a telephone conference would further the prosecution of this application, the Examiner is invited to call the undersigned attorney at (202) 496-7371.

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If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. §1.136. Please credit any overpayment to deposit Account No. 50-0911.

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Respectfully submitted,

By 
Teresa M. Arroyo

Registration No.: 50,015
MCKENNA LONG & ALDRIDGE LLP
1900 K Street, N.W.
Washington, DC 20006
(202) 496-7500
Attorneys for Applicant



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